1. A self-contained, practical robotic device energized by a power source and adapted to interact with objects comprises:

a base,

at least one finger mounted on said base having at least first and second links rotatably connected in series to one another at a rotary joint and connected at a proximate end of said first link to the base, said at least one finger having at least two degrees of freedom associated with at least two of said rotary joints,

an actuator mounted on said robotic device at each said rotary joint and operable to move an associated link about the associated one of said rotary joint,

an electronic controller located proximate each of said actuators to control and power the associated one of said actuators,

wiring within said robotic device that connects said controllers and said associated actuators to the power source and interactively connects said controllers to one another on a shared bus to form a distributed control network, and

a network operating controller interactively connected by said wiring to all said actuator controllers, said network operating controller coordinating the operation of said actuators through said distributed network of said actuator controllers.

2. The self-contained, practical robotic device of claim 1 further comprising at least one sensor mounted on said hand that produces an output electrical signal responsive to a sensed operating parameter of the robotic device, and said output signal is input to said distributed network of controllers.

3. The self-contained, practical robotic device of claim 1 wherein said wiring comprises one to five wires through said network serially connecting said actuator and network controllers.

4. The self-contained, practial robotic hand of claim 1 wherein the power source is electrical and wherein said wiring comprises two signal wires and two power wires.

5. The self-contained, practical robotic device of claim 1, wherein said at least one finger comprises at least two fingers and each has at least two links serially connected by said rotating joints.

6. The self-contained, practical robotic device of claim 1 wherein said rotating links are electrically connected across the associated rotary joint.

7. The self-contained, practical robotic device of claim 1 wherein said controllers and their interactive networking function as said network controller.

8. The self-contained, practical robotic device of claim 1 wherein said network controller is an electronic device distinct from said actuator controllers.

9. The self-contained, practical robotic device of claim 1 wherein said coordination of operation includes an allocation of power to each actuator from the power source.

10. The self-contained, practical robotic device of claim 2 wherein said at least one sensor includes transducers and transducer arrays wherein said electrical input signal of each said transducer is responsive to one or more parameters selected from the group consisting of proximity, torque, force, pressure, actuator position, actuator power usage, actuator current, voltage, vision, radiation, acidity, gravity vectors, acceleration, spectrum analysis, and temperature.

11. The self-contained, practical robotic device of claim 1 wherein said actuators are brushless motors.

12. The self-contained, practical robotic device of claim 11 wherein said actuators include a worm drive coupling each of said brushless motors to one of said links to rotate it at the associated one of said joints.

13 The self-contained, practical robotic device of claim 5 wherein the base has a palm surface generally aligned with an X-Y plane and further comprising object gripping pads replaceably secured on said palm surface and at least one of said links.

14. The self-contained, practical robotic device of claim 13 wherein one or more of said pads include V-grooves adapted to grip and locate the objects therein.

15. The self-contained, practical robotic device of claim 5 wherein the outermost link on each of said fingers is inwardly angled.

16. The self-contained, practical robotic device according to claim 1 wherein said base has a surface adapted to engage and grip the object in cooperation with a gripping of the objects by said at least one finger.

17. The self-contained, practical robotic device of claim 16, wherein said base has a gripping surface extending generally in an X-Y plane, and wherein said at least two fingers comprise one finger fixed at its first link against movement in said X-Y plane, and at least one other of said fingers moveable in said X-Y plane about one of said rotary joints.

18. The self-contained, practical robotic device of claim 17, wherein said at least one other finger comprises two of said fingers that are both rotatable in the X-Y plane between positions aligned with, and positions opposable to, said X-Y plane fixed finger.

19. The self-contained, practical robotic device according to claim 16, wherein said objects are elongated in a first direction, said base also extends in said first direction, and said at least two fingers are mutually spaced along said first direction and oriented to grip the elongated object against said base surface.

20. The self-contained, practical robotic device of claim 19, wherein said base is a fixture and wherein said objects are workpieces that are each releasably held on said fixture by said at least one finger for processing.

21. The self-contained, practical robotic device of claim 10 wherein said vision sensor is mounted on the exterior of said robotic hand to provide to said distributed control network real time vision information about the objects and their relationship to the robotic device.

22. The self-contained, practical robotic device of claim 10 wherein said sensor comprises at least one pair of an electromagnetic radiation source and an electromagnetic radiation transducer responsive to the output of said source, said sensor pair being positioned on said robotic hand to detect the objects.

23. The self-contained, practical robotic device of claim 22 wherein said sensor pairs are positioned and said robotic device for ranging to the objects and triangulation of said ranging information to locate the objects with respect to the robotic device.

24. The self-contained, practical robotic device of claim 10 wherein said sensor comprises a force transducer mounted on the robotic device to detect contact of the robotic device with the object and said output signal is input to said distributed control network to back drive said actuators in response to said contact.

25. A self, contained, practical robotic device of claim 11 wherein said brushless motor has a housing, a rotor that extends axially in one direction exterior to the motor housing, and bearings that rotatably support the rotor at its exterior extending portion.

26. The self-contained, practical robotic device of claim 25 wherein said exterior extending portion carries a worm gear and wherein said link rotated by said brushless motor at said associated rotary joint is secured to a gear that engages said worm gear so that rotation of said rotor produces a corresponding, reduced rotation of said associated link about the axis of said associated rotaty joint.

27. The self-contained, practical robotic hand of claim 26 wherein said wiring is spiral wound within each said rotary joint.

28. The self-contained, practical robotic device of claim 10 wherein said sensor comprises light emitters and light detectors mounted on the device and located to sense the presence of an object within the grasp of the robotic device.

29. The self-contained, practical robotic device of claim 10 wherein said sensors comprise light emitters and light detectors mounted in pairs on the tips of the outermost of said links of each of said fingers and said network controller operates them to measure distance to an object.

30. The self-contained, practical robotic device of claim 1 further comprising at least one gripping pad having a V-groove formed therein.

31. The self-contained, practical robotic device of claim 5 further comprising a fingernail-like gripping plate secured at the end of each of said angled links, said gripping plates providing a V-groove for edge-gripping and locating the objects.

32. A process for anodizing a robotic device having structural components rotatably connected to one another at rotary joints, the robotic device having an outer housing formed of an electrically conductive material that forms at least one interior cavity that contains electrical components of the robotic device, comprising:

providing anodizing solution,

sealing the exterior of said housing to prevent a flow of said anodizing solution into said at least one interior cavity when the device is immersed in said anodizing solution,

electrically connecting all of the exterior structural components of the robotic device, including the rotary joints,

immersing said sealed and electrically connected robotic device in said anodizing solution, and

applying an electrical current through the solution and the immersed robotic device to effect an anodizing of all the exposed exterior surfaces of the robotic device without a pre-masking of the robotic device.

33. The anodizing process of claim 32, wherein said sealing comprises replaceably covering exterior openings in said housing with covers and resiliently sealing between the covers and the adjacent surfaces of the housing.

34. The anodizing process of claim 32, wherein said electrical connecting includes replaceably connecting grounding conductors across the rotary joints.

35. The anodizing process of claim 33 further comprising rinsing the anodized robotic device in a rinse solution and controlling the temperature of said anodizing solution and said rinse solution, to similar values to control the development of pressure gradients that degrade said sealing.

36. The anodizing process of claim 32 wherein the robotic tool is formed of aluminum and said solution providing and applying of electrical current produce a Teflon® anodized layer.

37. The anodizing process of claim 33 wherein said covers are generally circular and said resiliently sealing comprising providing an O-ring seal at the periphery of said circular covers.

38. The anodizing process of claim 37 wherein said sealing further comprises securing said circular covers to the structural components with screws formed of a material resistant to the anodizing.